

REMARKS

Claims 1, 2, 4, 7-19 and 22 are pending in this application. Claims 1, 4, 7, 8, 9, 12, 13, 17 and 18 are amended. Claims 3, 5, 6, 12, 20 and 21 are cancelled. New claim 22 is added. Reconsideration and allowance of the pending claims are requested in view of the claims amendment and following remarks.

CLAIM OBJECTIONS

Claim 8 is objected to because of informalities.

Claim 8 has been amended as per the Examiner's suggestion. Withdrawal of this objection is requested.

REJECTIONS UNDER 35 U.S.C. §102(b)

Claims 1-6, 11, 17-19 and 21 are rejected under §102(b) as being anticipated by Wright et al. (USP 5,990,734). Applicants traverse this rejection.

Initially, Applicants submit that independent claim 1 has been amended to similarly recite a compensator constructor estimating cross coupling channels between in-phase and quadrature phase components. The subject matter added into claim 1 may be found in original claims 5 and 6. Claim 17 has been similarly amended.

Without acquiescing to the Examiner's allegations with respect to the rejection of original claims 1 and 17, Applicants submit that Wright et al. fails to suggest or teach a compensator constructor estimating cross coupling channels between in-phase and quadrature phase components, as alleged by the Examiner in rejecting original claim 6.

Wright et al. teaches a Linear Amplification Using Non-Linear Component (LINC) linearization technique, whereas the present application relates to a predistortion technique. Accordingly, in a LINC amplifier neither a digital compensation signal processor (DCSP) 21 nor an adaptive control processing and compensation estimator (ACPCE) 26 as alleged by the Examiner as the compensator and compensator constructor, respectively, recited in claim 1 has any cross coupling capabilities. Therefore, Wright et al. does not teach a cross-coupled compensator capable of removing modulator imbalance in upconversion as recited in claims 1 and 17.

For at least the reasons given above, Applicants submit that independent claims 1 and 17 are patentable over Wright et al. Dependent claims 2-4, 11 and 18-29 are also patentable for respectively depending on an allowable base claim. New independent claim 22 is also patentable for all the same reasons claims 1 and 17 are patentable.

REJECTIONS UNDER 35 U.S.C. §103(a)

Claim 7 is rejected under §103(a) as being unpatentable over Wright et al. in view of Zhang (US 5,990,734) in further view of Birru (US 2002/0037058). Applicants traverse this rejection.

As discussed above, independent claim 1 is patentable. In addition, Zhang and Birru fail to cure the deficiency of Wright et al. Accordingly, claim 7 is also patentable for at least the reasons that claim 1 is patentable.

Claims 8-10 are rejected under §103(a) as being unpatentable over Wright et al. in view of Zhang. Applicants traverse this rejection.

As discussed above, independent claim 1 is patentable. In addition, Zhang fails to cure the deficiency of Wright et al. Accordingly, claims 8-10 are also patentable for at least the reasons that claim 1 is patentable.

Claims 12-13 and 20 are rejected under §103(a) as being unpatentable over Wright et al. in view of Birru. Applicants traverse this rejection.

As discussed above, independent claim 1 is patentable. In addition, Birru fails to cure the deficiency of Wright et al. Accordingly, claims 12-13 are also patentable for at least the reasons that claim 1 is patentable. Claim 20 is cancelled, thereby rendering moot the Examiner's rejection thereof.

Claims 14-16 are rejected under §103(a) as being unpatentable over Wright et al. in view of Poklemba et al. (US 2003/0141938). Applicants traverse this rejection.

Similar to independent claims 1 and 17, independent claim 14 recites "a second filter for filtering the quadrature phase component to compensate for at least one of gain imbalance and phase imbalance in the in-phase component associated with cross-coupling of the quadrature phase component with the in-phase component." (Emphasis added.) In addition, Poklemba et al. fails to cure the deficiency of Wright et al. Accordingly, claims 14 is patentable, and dependent claims 15-16 are also patentable for depending on an allowable base claim.

CONCLUSION

In view of the above remarks and amendments, the Applicants respectfully submit that each of the rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gary D. Yacura at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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By

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